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March 28, 2016

VIA EMAIL

Mr. Brian Torrie
Director General
Regulatory Policy Directorate
Canadian Nuclear Safety Commission
280 Slater Street
PO Box 1046, Station B
Ottawa, ON K1P 5S9

Dear Mr. Torrie:

Cameco's Comments on REGDOC-2.9.1, *Environmental Protection: Environmental Policy, Assessments and Protection Measures*

Cameco Corporation (Cameco) has prepared the following comments on draft REGDOC 2.9.1, *Environmental Protection: Environmental Policy, Assessments and Protection Measures* (the Document). Our comments are provided in the context of Cameco's commitment to environmental protection and the regulatory history of REGDOC-2.9.1 starting with the Canadian Nuclear Safety Commission (CNSC) staff Commission Member Document CMD 13-M8 dated February 5, 2013.

Cameco's commitment to environmental protection is defined in our corporate Safety, Health, Environment and Quality Policy where it is also recognized among our highest corporate priorities, during all stages of our activities. Further, a clean environment is also one of Cameco's four measures of success. The strength of this commitment to the environment is reflected in our performance and our efforts to continually improve.

We will first discuss Cameco's key concerns regarding the Document in general. We will then detail our specific concerns with, and recommendations for, specific sections of the Document in the attached "Schedule A: Cameco's Detailed Comments on REGDOC-2.9.1".

Regulatory Impact on Licensees

Fundamentally. no cost-benefit analysis was provided and, in fact, it is not clear that the Document will result in any increased environmental protection.

Although the Document states as follows "the CNSC does not expect that significant additional information will be required from applicants or licensees" for an Environmental Assessment (EA) under the *Nuclear Safety and Control Act* (NSCA), the implementation of this REGDOC will likely increase the regulatory burden for licensees. For example, in our view, the additional costs for the CNSC to implement an "EA under the NSCA" will be transferred to licensees and further, any extension of the time to complete the licensing process will also increase licensee costs.

In addition, the Document includes requirements that may duplicate or conflict with provincial or other federal regulations and have the effect of a regulation without having been subject to the scrutiny required in the process to introduce new regulations. In our view, such prescriptive requirements should not be included in a guidance document and more properly belong in regulations that then follow the process to introduce new requirements, including a cost-benefit analysis.

Scope of REGDOC-2.9.1

Cameco continues to have many of the same concerns with the potential scope and application of the Document that were expressed in our July 30, 2014 submissions regarding the previous REGDOC-2.9.1 draft.

The Document can be interpreted to include decisions related to applications within the licensing basis as "licensing decisions" subject to the requirements set out in the process for an "EA under the NSCA" on page 9 of the Document when, in fact, changes to a facility, its operation or safety and control areas that remain within the objective of the licensing basis do not require a Commission-level decision.

It would greatly increase regulatory certainty for licensees and reduce public confusion if the Preface to the Document expressly stated that it applies to licence applications that require a CNSC Commission decision after a public hearing. More specifically to the following:

- Licence for a new facility;
- Licence renewal or amendment for an existing facility; and,
- Proposed changes to a facility, its operation or safety control measures that are outside of the licensing basis.

Scope of an "EA under the NSCA"

Following from our above comments, we reiterate the points made in our July 30, 2014 submission with respect to the confusion created by the use of the term "EA under the NSCA" and recommend that it be replaced with the phrase "environmental protection assessment" (EPA) previously proposed in CMD 13-M8.

"Environmental assessment" is a well-defined process under both provincial legislation and under the *Canadian Environmental Assessment Act, 2012* (CEAA 2012). It is defined in CEAA 2012 to refer to an assessment conducted in accordance with that legislation. CNSC's mandate under s. 24(4)(b) of the NSCA to ensure that a licensee or applicant will make adequate provision for the protection of the environment does not require a process equivalent to a CEAA EA for facilities and activities not within the definition of "designated project". Using the same term to refer to different processes creates uncertainty and even confusion for licensees and the public.

Further, the Document treats a provincial or CEAA EA as a separate process from an "EA under the NSCA" (EPA) and does not describe or allow for integrated and coordinated processes when overlapping legislation applies. In our view, the CNSC can meet its mandate by participating in a single review process for many applications and the Document should be revised to emphasize the opportunities available to enhance efficiency and minimize duplicative legislative process.

Standards and REGDOCs Incorporated by References

The Document refers to numerous standards (Canadian Standards Association (CSA) and Internal Organization for Standardization (ISO)) as well as other REGDOCs and often paraphrases or includes a description or interpretation of the requirements contained in the referenced standard or REGDOC. In many cases, the description provided in the Document do not align with the applicable standards (see further details in Schedule A). This could lead to regulatory uncertainty for licensees because these standards are often listed as compliance verification criteria in Licence Condition Handbooks (LCHs).

Further, with respect to CSA standards specifically, in some cases, when the Document requires compliance with a CSA standard, the Document's interpretation of that standard sometimes differs from the intention of the standard and has the effect of imposing a different requirement on licensees. In our view, not only does this create a regulatory burden, but it also circumvents the integrity of the CSA process where, through considerable effort and resources as well as the participation of a broad group of stakeholders (including the CNSC), a science-based consensus was reached on an appropriate standard.

In the result, it would simplify the Document, eliminate uncertainty and avoid inconsistencies if the relevant standard or REGDOC was merely referenced.

The Effect of Legislative Changes

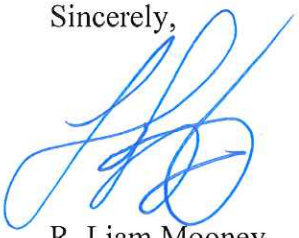
Changes to federally legislated environmental legislation after a CEAA EA or an "EA under the NSCA" (EPA) has commenced will lead to uncertainty for applicants and licensees. Although the CNSC may have little control over legislative changes to environmental legislation, the CNSC has control over its interpretation of s. 24(2) of the NSCA. The Document should state that the requirements for an "EA under the NSCA" (EPA) will not change after the submission of an application.

In addition, Cameco strongly believes that the CNSC should advocate for a similar provision in any changes made to CEAA 2012. Without a "grandfathering" provision, industry has no ability to carry out effective environmental protection planning.

Given the fundamental changes made in this draft version of REGDOC-2.9.1 and the extent of the further changes that we believe are still necessary, Cameco would welcome the opportunity to participate in a stakeholder workshop to clarify our comments and concerns.

Cameco would be pleased to respond to any further questions. Please contact the undersigned in this regard at (306) 956-6685 or liam_mooney@cameco.com.

Sincerely,



R. Liam Mooney
Vice-President
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DA:lp

c: D. Newland, K. Murthy and J. LeClair, UMMD - CNSC
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Schedule A: Cameco's Detailed Comments on REGDOC-2.9.1

The following comments are organized under the REGDOC-2.9.1 headings.

Preface

We suggest that the Preface would be much clearer if it set out the scope of its application. We propose the following:

> The *Nuclear Safety and Control Act* (NSCA) requires the Canadian Nuclear Safety Commission (CNSC) to ensure that all licensing decisions for nuclear facilities and activities provide adequate protection for the environment and the health and safety of persons. The CNSC is required to comply with the requirements of the *Canadian Environmental Assessment Act, 2012* (CEAA 2012) and complete an environmental assessment (EA) for "designated projects" as defined in CEAA 2012. In support of Commission decisions regarding licence applications for non-designated projects, the CNSC completes an environmental protection assessment (EPA) commensurate with the scale and complexity of the environmental risk for the specific project.
>
> Where a proposed facility or project must also comply with provincial or territorial environmental assessment legislation, the CNSC enters into agreements with the other jurisdiction, where possible, to coordinate and streamline the administration of environmental protection processes and to enhance efficiency and reduce the regulatory burden and uncertainty for licensees.

Scope

It is not abundantly clear that the "EA under the NSCA" (EPA) process does not apply to proposed changes that are within the existing licensing basis of a facility. We suggest that this section be revised to indicate that the "EA under the NSCA" (EPA) process applies to licence applications that require a Commission-level decision. Specifically, the following:

- Licence for a new facility;
- Licence renewal or amendment for an existing facility; and,
- Proposed changes to a facility, its operation or safety control measures that are outside of the licensing basis.

2.1 The CNSC's guiding principles for protection of the environment

This section references principles, such as: pollution prevention; the precautionary principle; polluter pays; sustainable development; and, adaptive management.

With respect to the precautionary principle, the relevant legislation requires federal government policy and regulatory decision-makers to apply it when making decisions (see for example, s. 4(2) of CEAA 2012 and s. 2(1)(a) of *Canadian Environmental Protection Act, 1999* (CEPA 1999)) with this context, it is clear that the precautionary principle does not apply to licensees. Where the other mentioned principles apply to licensees, they are a legal requirement and already inherent within the other relevant federal legislation listed in section

1.3 of the Document (e.g. CEPA 1999). The nuclear industry in Canada has a strong record of regulatory compliance and specifically mentioning these principles in this context may imply that this is not the case. In our view, it is unnecessary to state in a guidance document that licensees must comply with the law and it would simplify the Document if this paragraph were deleted.

In addition, the list of "guiding principles" in this section are re-stated in the following section regarding "factors considered by the CNSC". We suggest that deleting this paragraph would simplify the Document.

2.4 Public and Aboriginal engagement

We suggest that the Notes are unnecessary given the reference to RD/GD99.3 and REGDOC-3.2.2 in the section.

3.1 Environmental assessments under CEAA 2012

The second bullet in the Notes states that "licensed facilities and activities are subject to an ongoing EA under the NSCA." From previous discussion in the Document, our understanding is that "EAs under the NSCA" (EPAs) are specific reviews conducted in support of Commission-level licensing decisions. We recommend that this be revised to indicate that, "licensed facilities are subject to ongoing regulatory oversight of their environmental protection programs".

3.2 Environmental assessments under the NSCA

The statement that, "An EA under the NSCA is carried out at every phase of the lifecycle of the facility or activity" is misleading because it suggests that a series of assessments must be carried out. In fact, a single "EA under the NSCA" (EPA) may consider all phases of the facility lifecycle, with subsequent environmental risk assessments (ERAs) completed as part of the Environmental Management System for the facility. It is recommended that this sentence be replaced by "All phases of the lifecycle of a facility may be considered as part of an EPA."

The scope of licence applications that would require an "EA under the NSCA" (EPA) to support a Commission-level decision should be clearly stated in this section. This would reduce regulatory uncertainty and provide clarity to both licensees and the public. From the scope statement provided in section 1.2, our understanding is that this list would specify the following:

- Proposed new nuclear facilities or activities;
- Licence amendments or renewals for existing facilities;
- Commission level decisions on changes to a facility, its operation or safety and control areas that are outside of the licensing basis established for that facility.

3.2.1 Overview of the process for an environmental assessment under the NSCA

CSA N288.6 sets out the framework for an ERA and this includes the triggers for an ERA. This section, as drafted, does not make it clear that an application may rely on an existing and valid ERA. We suggest the second paragraph be revised to read as follows:

> The applicant or licensee is required to perform an ERA, commensurate with the scale and complexity of the risks associated with the facility or activity. A licensing application may demonstrate that an existing ERA remains valid and in such cases, no new ERA will be required.

3.2.2 The CNSC's role and responsibilities for an environmental assessment under the NSCA

The section shows the "EA under the NSCA" (EPA) process to include all the bulleted steps at the bottom of page 9 for all applications. We suggest the sentence introducing the bulleted steps should be revised to read "The CNSC's EPA process may include some or all of the following:"

Documenting the EA findings

The distinction between the "staff document the EA findings" and an "EA report" is unclear. We recommend that the nature of the written findings be detailed to avoid confusion. For example, if in one case, the findings are included in a CMD and, in the other case, the information in the CMD is extracted and put in a separate document, then this should be expressly stated. As stated, the Document suggests that additional public participation occurs only if an EA report is prepared. If so, then this should be more clearly stated.

4. Environmental Protection Measures

The Document would be simplified by deleting the first two paragraphs because their content is captured in the subsequent paragraphs.

If the first paragraph is not deleted, then it is recommended that the first sentence be revised to read "…identify, and where necessary, control and monitor…"

4.1 Environmental risk assessment

The definition of ERA differs from the definition in CSA N288.6. It is recommended that the definition be revised to align with that provided in CSA N288.6.

It is recommended that the fourth bullet on page 13 be revised to indicate that an ERA predicts, "…exposure and effects on valued ecosystem components".

Requirements

As noted above, it is recommended that the second paragraph be revised to indicate that ERAs characterize risk on "valued ecosystem components".

Guidance

It is unclear what the second paragraph adds given the Requirements section unless this paragraph only applies to facilities specified in the first paragraph. If this is the case, then this section should be clarified or otherwise deleted.

4.1.1 Design of the facility or activity

Requirements

The second paragraph could create confusion for the public because it suggests that ALARA (as low as reasonably achievable, social and economic factors taken into account) refers to general environmental protection when it refers to minimizing radiation doses and releases of radioactive materials only.

In addition, Cameco employs best practices and conducts ERAs to predict the environmental performance of our facilities. This is undertaken to predict potential conditions in the receiving environment and to inform the design of pollution mitigation measures, as suggested in the Document. However, while this process includes a consideration of BATEA (best available technologies economically achievable), overall, it is a risk-based process meant to provide adequate protection of human health and the environment. Basing facility design considerations solely on BATEA would create expectations of achieving *de minimis* performance regardless of cost, actual benefit to the receiving environment or applicability to site-specific conditions identified in the EA.

The first sentence in the third paragraph states that the licensee must demonstrate that the design of a facility or activity must prevent or minimize any effects of a release. In our view, this should be revised to read "...and to prevent or minimize any *unreasonable* effects *on valued ecosystem components*..."

The last paragraph suggests that "residual" risks must, after a facility or activity is licensed, be mitigated further. Either the design is acceptable or it is not. If further risk must be mitigate, then that should precede licensing.

4.1.2 Complexity of the environmental risk assessment

There are inconsistencies between the requirements for an ERA stated in this section and those contained in CSA N288.6. We recommend that this section simply refer to CSA N288.6 for guidance on conducting an ERA.

Requirements

Subject to the general comment above, the section does not clarify the relationship between CNSC's requirements and a licensee's compliance with provincial requirements with respect to emissions and effluent. This introduces regulatory uncertainty and should be clarified.

Guidance

Figure 2 may be based on CSA N288.6, as stated, but it is difficult to follow because it does not use a yes/no bifurcation for the "minimal environmental impact" branches.

The fourth paragraph suggests site characterization is part of all ERAs. We suggest that the section should be revised to acknowledge that a summary of site characterization is sufficient for any application in which an existing and valid site characterization is available.

The fifth paragraph refers to a "simple hazard quotient screening assessment", which is a CSA N288.6 term undefined in the Document. If this section is not deleted, then either the term "hazard quotient" should be deleted from this sentence or a reference to CSA N288.6 should be included to provide additional context.

The last paragraph suggests that adaptive management excludes the option where no management is warranted. This paragraph should be revised to set out the appropriate two-step analysis: Step 1: investigation; Step 2: adaptive management (which may include mitigation measures).

4.2.2 Monitoring of releases to the environment

We suggest that this section should be revised to align with CSA N288.5 by replacing "effluent and emissions monitoring" with "effluent" as CSA N288.5 includes "emissions" in "effluent".

Requirements

The third and fourth paragraphs sets out requirements that duplicate CSA N288.6 and other regulatory requirements. These paragraphs are redundant and should be deleted.

The second full paragraph on page 21 is inconsistent with the *Fisheries Act* and its regulations (e.g. *Metal Mine Effluent Regulations)*; specifically, monitoring includes testing for acute lethality and toxicity testing only occurs if an effluent fails the acute lethality test. The Document should be revised to refer to the requirements of the *Fisheries Act* and its regulations.

The first bullet on the top of page 21 and the subsequent paragraph discuss the inclusion of "performance indicators" for operational control. This goes not only beyond the scope of the *Uranium Mines and Mills Regulations* and the *Radiation Protection Regulations,* which only require Action Levels, but also CSA N288.5, which defines performance indicators in terms of Quality Assurance/Quality Control (QA/QC) objectives, not facility performance. We suggest that this requirement for "performance indicators" be removed to prevent regulatory uncertainty for licensees.

Guidance

This section discusses monitoring to cover design basis accidents, beyond-design basis accidents, and where appropriate, severe accidents. CSA N288.5 does not address emissions

that can occur during accidental releases. We suggest that this discussion is better suited for REGDOCs or standards that are applicable to emergency response and management and that it be removed from REGDOC 2.9.1.

4.3 Environmental monitoring

This section should be renamed "Environmental Monitoring Program" and this terminology should be used consistently throughout to align with both CSA N288.4 and the LCHs issued by the CNSC.

The definition of "environmental monitoring" in the first paragraph does not align with that in CSA N288.4. We suggest that the first two sub-bullets (background concentration and transport) in the first bullet be removed and the statement "*An EMP can include: pathways monitoring, biological effects monitoring, and supplementary studies*" be added after the bullets.

Requirements

The third paragraph on page 24 is inconsistent with the LCHs for our facilities and with the CNSC's INFO-0795: Licensing Basis Objective and Definition. We suggest that this should be revised to read "...that the effects on the environment are within the *objective of the* licensing basis..."

Guidance (page 25)

The guidance provided with respect to "performance indicators" does not align with CSA N288.4. Performance criteria in CSA N288.4 are described as data quality objectives, QA/QC targets, percent compliance with scheduled sampling activities, etc., and does not include generic or site specific environmental quality guidelines as suggested in REGDOC 2.9.1. The text should be deleted or revised to align with CSA N288.4.

The first bullet in the second full paragraph should be revised to read "components *of* air, water, soil and sediment".

4.4 Public dose

Guidance

The section should be revised to confirm, in accordance with previous discussions and the development of the standard in question, that CSA N288.1 does not apply to uranium mines and mills.

4.5 Groundwater protection and monitoring

The definition of "groundwater protection" provided does not align with CSA N288.7 (Section 0.2.2.1). We suggest that this paragraph be revised to align with the standard.

4.5.1 Groundwater protection

The "Note" on page 27 with respect to CNSC approval of discharges to groundwater should be removed. Such a proposal would be subject to assessment and approval by the Commission. Depending on the location of the facility and the nature of the discharge, an EA may demonstrate that no significant adverse effects would occur and it is the most environmentally acceptable option.

4.5.2 Groundwater monitoring

This section should only refer to CSA N288.7; no other commentary is necessary.

Guidance

The bullet list refers to "groundwater performance indicators". This reference does not align with the scope of CSA N288.7, which discusses performance criteria associated with data quality objectives (QA/QC) and monitoring program compliance and not groundwater quality. This bullet should be removed or revised to align with the requirements of CSA N288.7.

4.6 Environmental management system

The fourth bullet in the second paragraph should be revised to read "monitoring of contaminants and their *potential* effects in the environment".

4.6.1 Establishing an environmental management system

Requirements

The last bullet includes "annual". This should be deleted because clause 4.6 of CAN/CSA ISO 14001 requires management reviews at planned intervals and not annually.

4.6.3 Framework of an environmental management system

This section is misplaced and more properly belongs before 4.6.1 and 4.6.2. In addition, the "Wastes" section should be deleted as wastes are fully considered in ERAs.

Appendix B: Characterization of the Baseline Environment for an Environmental Risk Assessment

It is our understanding that the intent of this Appendix is to provide guidance on characterization of baseline environment in support of an EA conducted under CEAA 2012 and not an "EA under the NSCA" (EPA). It is recommended the title be revised accordingly to make that distinction clear.

We also note that some of the requirements in this appendix would not be needed in all cases. We recommend that the appendix specify that a graded approach applies to the requirements based on the scope and complexity of the application.

Appendix C: Environmental Effects for an Environmental Risk Assessment

This section appears to provide guidance on an effects assessment that would be completed as part of a CEAA EA. It is recommended that the title be revised accordingly to prevent unnecessary confusion.

In addition, as for Appendix B, some of the requirements in this appendix also would not be needed in all cases. We recommend that the appendix specify that a graded approach applies to the requirements based on the scope and complexity of the application.